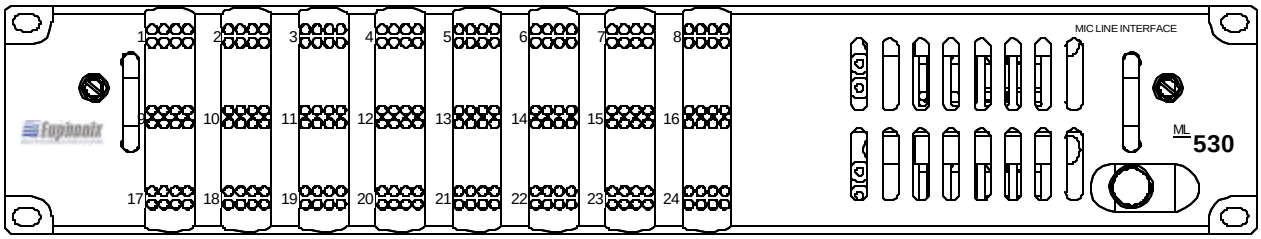

ML530 Mic-Line Interface Manual

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ML530 MIC-LINE INTERFACE

Box Inventory

The ML530 Mic-Line Interface box contains the following items.

Description	Part #	Qty
ML530 Mic-Line Interface	956-06648-01	1
Power supply, ML530	946-06692-01	1
ML530 Manual	840-07522-01	1

The ML530 is packaged without cables. Sync, Control, MADI, and audio cables are required. 10 meter, 20 meter or custom length cable kits are available for order. See the 'User Reference' section.

Safety and Precautions

1) Read Instructions - Read all the safety and operation instructions before operating the MC524 converters.

2) Heed Warnings – Follow all warnings on the MC524 and in these operating instructions.

3) Water and Moisture – Do not use the MC524 near water.

4) Heat – Locate the MC524 away from heat sources.

5) Power Sources – Connect the MC524 only to a power supply of the type described in these operation instructions or as marked on the MC524.

6) Power Cord Protection – Route power cords so that the are not likely to be walked upon or pinched by items placed on them.

7) Object and Liquid Entry – Do not drop objects or spill liquids on the MC524.

8) Damage Requiring Service – The MC524 should be serviced only by qualified personnel when:
    a) Objects have fallen, or liquid has spilled into the MC524; or
    b) The MC524 does not appear to operate or exhibits a marked change in performance; or,
    c) The MC524 have been dropped or there is damage to a chassis.
9) Servicing – Do not attempt to service the MC524 beyond those means described in this operation manual. All other servicing should be referred to the Euphonix Tech Support department.
10) Fuse replacement – To prevent electric shock and avoid risk of fire, replace fuse only with the same type and rating.
11) To prevent electric shock, do not use the MC524 polarized plug with and extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.
12) Grounding or Polarization – Do not defeat the grounding or polarization of the MC524.

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13) Cooling - In order to provide adequate ventilation for product cooling, Euphonix recommends that One (1) rack space be left open on TOP of every two (2) box devices except the S5 computers. . Examples of box devices are 2RU high converters, the Mic/Line Interface and the Monitor Controller. The Mic-Line and the Monitor box must be on the TOP of the group of two.

THERE ARE NO USER SERVICEABLE PARTS IN THE ML530

System Setup

The ML530 receives control information from the System 5 Interface Pilot via a 15 pin Dsub cable.

All necessary connections to the ML530 are described in the cable specifications and hookup diagrams in this document.

Power On Sequence

The ML530 can be powered up independently of the Digital Core components. It can be left powered on continuously in a typical installation.

CE

CE certification for the ML530 is available from the factory.

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Component Overview

Functional Description

The ML530 Mic-Line Interface is a 24 channel digitally controlled analog preamplifier. Digital control of the ML530 is provided by the SC253i Interface Pilot which is under control of the system operator from the System 5 control surface.

In addition to gain, the ML530 also features a high pass filter, Hi/Lo Z switch, and phantom power. The ML530 is packaged in a 2RU enclosure.

Features

The ML530 provides gain over a range of -12dB to +72dB in 1/2dB increments for each channel.

Front panel LEDs provide status information of all features so the operator can determine at a glance the status of each input channel. Red front panel LEDs indicate signal clipping, mute, impedance or phantom power activation. Green LEDs indicate signal presence or the activation of the high pass filter, or pad attenuator. (Mute, signal present, pad and mute are not currently implemented.)

Redundant power is supported by the purchase of an additional power module 964-06692-01.

Applications Typical Use

Used in conjunction with the Euphonix AM713 analog to MADI converter, the ML530 provides multiple variable gain inputs for the System 5 system. If more than 24 channels of variable inputs are desired, additional ML530 units can be added to the System 5 configuration.

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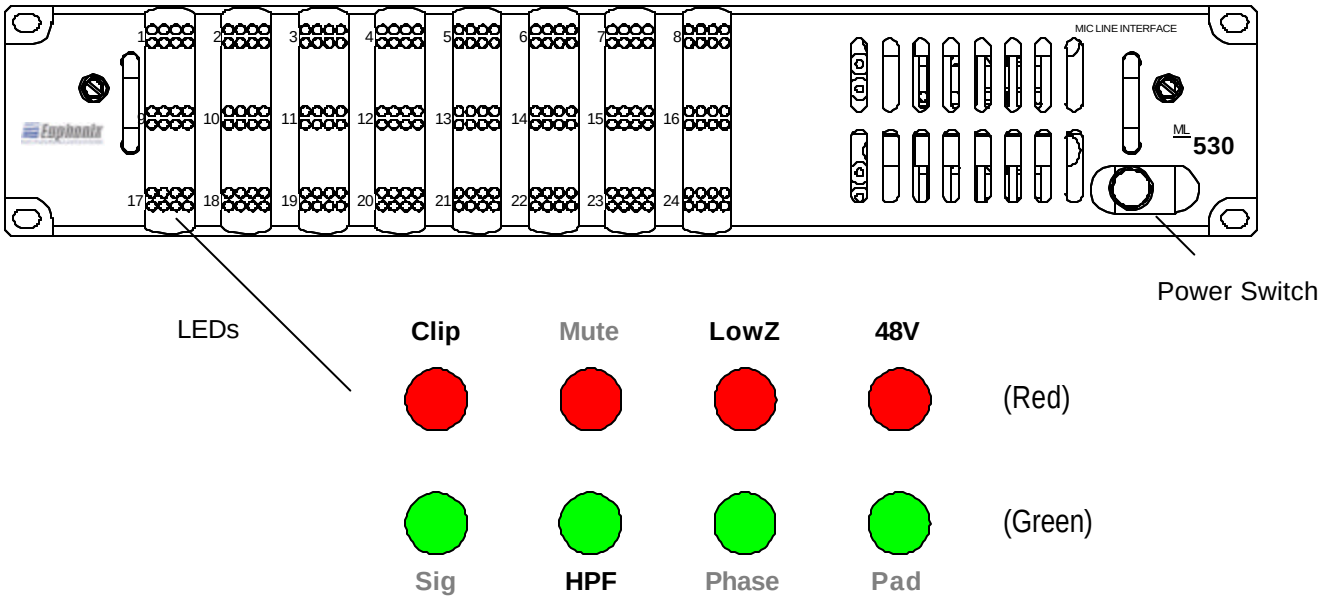
Physical Specifications

Front Panel



LEDs 8 LEDs provide status information for each of the 24 channels as follows:

- **Clip** Signal clipping (red)
- **Mute** Channel muted (red) (currently not implemented)
- **LowZ** Low impedance (red)
- **48V** Phantom power (red)
- **Sig** signal present (green) (currently not implemented)
- **HPF** High pass filter (green)
- **Phase** Phase invert (green) (currently not implemented)
- **Pad** 12 dB attenuation (green) (currently not implemented)

Power Switch On/Off button powers the unit up.

Since the ML530 is digitally controlled via software, there are no other user controls on the front panel.

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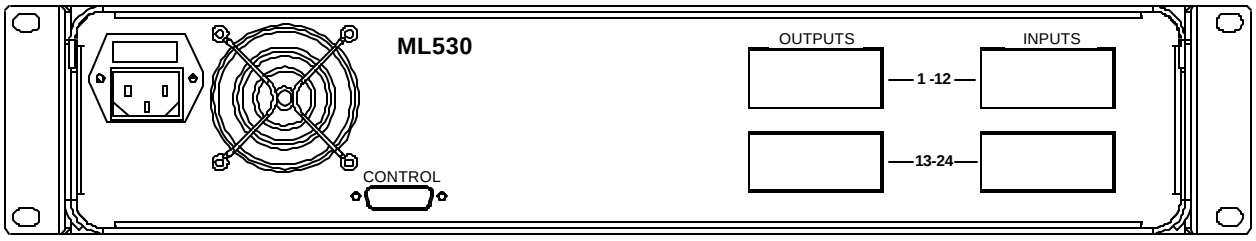
Rear Panel Connectors



Inputs (38 pin ELCO). A total of 24 inputs are provided on two 38 pin ELCO connectors. All signals input at these ports can be level boosted or attenuated. In standard configuration, input cable is configured by customer. ELCO connectors and pins are provided. (See pinouts on pages 14 and 15.)

Outputs (38 pin ELCO) A total of 24 outputs are provided on two 38 pin ELCO connectors. The supplied output cables fan out to 2 sets of 12 XLR Females for connection to the AM713 Analog to MADI converter. (See pinouts on pages 14 and 15.)

Control (DB15) Digital control input from 253i Pilot computer. Signal format is Euphonix TCC bi-directional serial protocol.

AC Line In (IEC) and Fuse Tray The IEC power connector accepts standard IEC power cords. 90-250VAC, 50 or 60Hz can be applied at this connector.

Dimensions

Height: 3.5 inches
Width: 19 inches
Depth: 18.6 inches
Weight: 17 lbs
Approximately 6 inches of depth should be left behind the ML530 for cable connections.

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Technical Specifications

Performance Specifications

Gain Range	-12dB – 72dB in 0.5dB steps	
Phantom Power	+48V+/-2%	(Switched per channel)
Maximum Input Level	41dB	(Pad inserted, unity gain, @1KHz, @1% THD+N)
Differential Input Impedance	200Kohms	(Hi Z, Pad off, +48V off)
	200Kohms	(Hi Z, Pad on, +48V off)
	12.7Kohms	(Hi Z, Pad on, +48V on)
	12.7Kohms	(Hi Z, Pad off, +48V on)
	1.5Kohms	(Lo Z, Pad off, +48V off)
	1.5Kohms	(Lo Z, Pad on, +48V off)
	1.4Kohms	(Lo Z, Pad on, +48V on)
	1.4Kohms	(Lo Z, Pad off, +48V on)
Maximum Output Level:	29dB	(@1KHz, @1% THD+N)
Output Impedance:	100 ohms	
Frequency Response:	10Hz - 90KHz	(-0.5dB @ unity gain)
	20Hz - 50KHz	(-0.1dB @ unity gain)
	10Hz - 60KHz	(-0.5dB @ 30dB gain)
	22Hz - 22KHz	(-0.1dB @ 30dB gain)
	10Hz - 90KHz	(-0.5dB @ 66dB gain)
	15Hz - 80KHz	(-0.1dB @ 66dB gain)
Gain Accuracy:	+/-0.15dB	(@1KHz)
Distortion (THD+N):	0.0006%(@ 1KHz @ 0dB gain with +13.5dB applied, 22KHz Filtered)	
	< 0.02% (20Hz – 20KHz @ 13.5dB 80KHz Filtered)	
Equivalent Input noise, (EIN):	-127dB	(@66dB Gain, 22Hz – 22KHz Filtered, Low Z mode, 150ohm source)
Common Mode Rejection (CMR):	>50dB	(10Hz – 30KHz)
Phase Linearity:	+/-10 degrees	(20Hz – 70KHz)
High Pass Filter:	80Hz 18dB/octave switched per channel	
Phase Invert:	180 degrees switched per channel	

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Environmental Requirements

5 to 35 degrees Centigrade.

Power Requirements

100-240 VAC, 50/60Hz.

Power Consumption

100W

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User Reference

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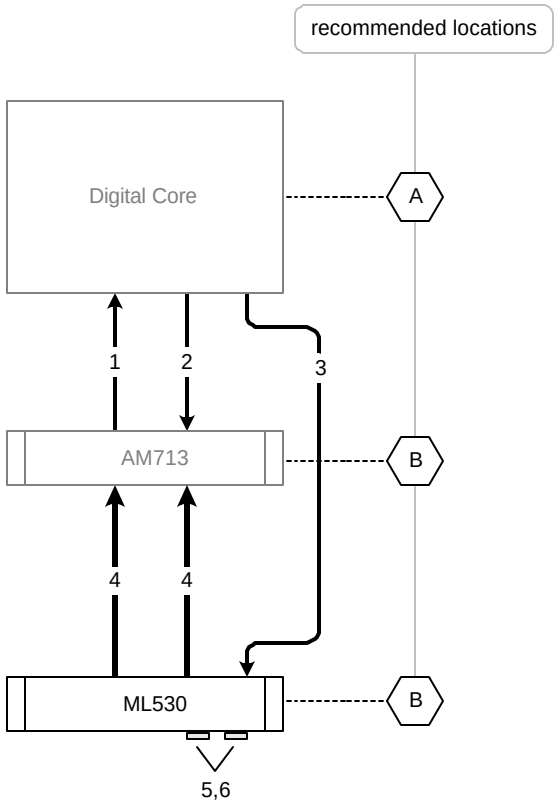
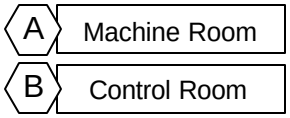
User Reference

ML530 Mic/Line Interface Cable Specification – Standard Configuration





Use relative locations to determine cable lengths

Elco crimp pins and hoods for user inputs are supplied in accessory cable kits. Input cabling supplied by customer

The standard lengths specified below are supplied so that the monitor interface can be located in the control room. Custom lengths are available. Cable kits must be ordered separately.

Cable	Qty	Description	10M Part #	20M Part#	Length
		Accessory cable kits by special order	**936-07083-01**	**936-07155-01**	
1	(1)	MADI Output (RG59 75 ohm coax)	032-07230-00	032-07306-00	
2	(1)	AES/EBU Sync (1xXLRM<>1xXLRF)	030-07085-01	030-07153-01	
3	(1)	TCC Control from 253i Interface Pilot	030-06983-01	030-06985-01	
4	(2)	ML530 Analog out (EM38x1<>XLRFx12)	030-7108-01		.5M
5	(2)	Elco 38 Pin Connector w/hood	100-02099-00		NA
6	(80)	Elco Crimp Pins	100-02100-00		NA

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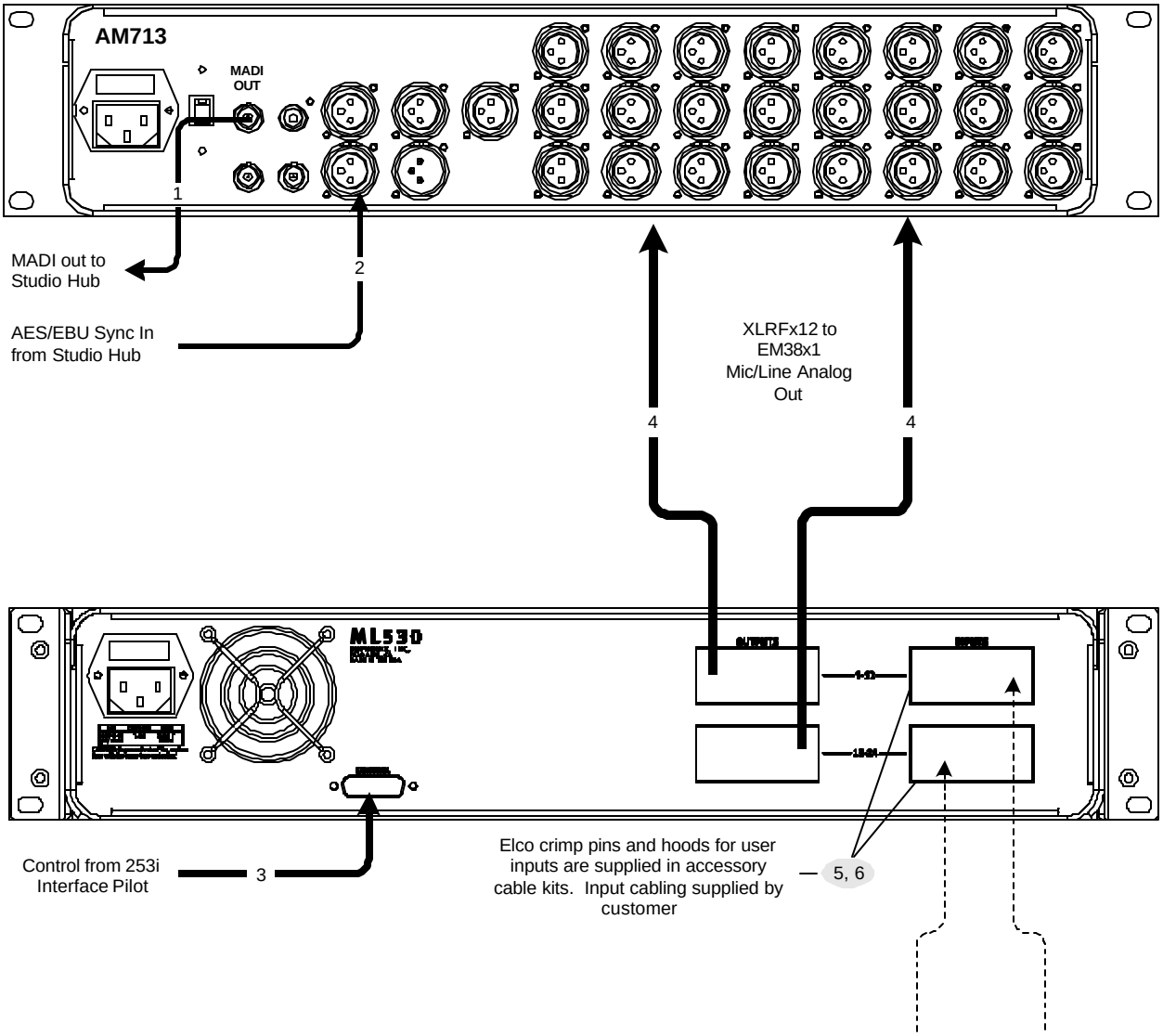
ML530 Mic-Line Interface Hookup Diagram – Standard Configuration



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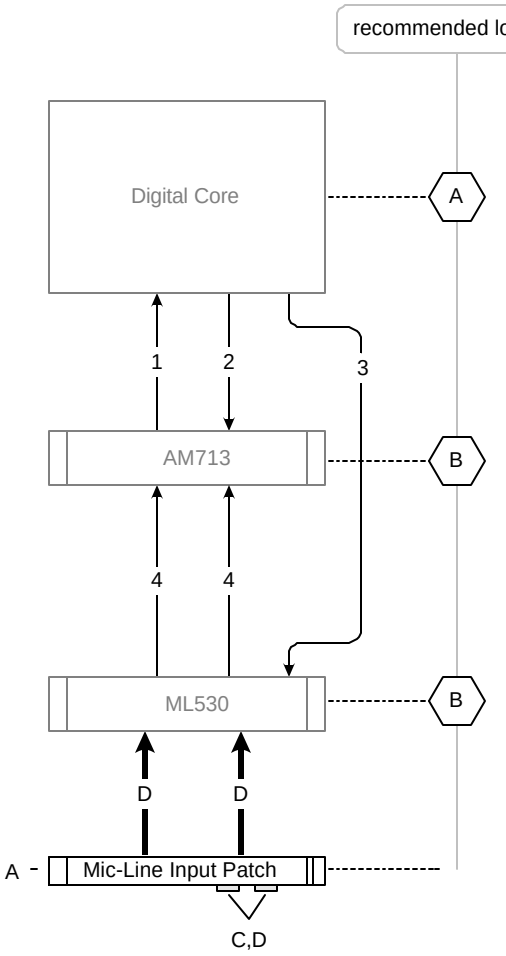
ML530 Mic-Line Interface Cable Specification – Optional Input Patch



Input cabling supplied
by customer

Note: The patchbay in the patch option has the capacity to provide input patch to 48 channels or two ML530 Interfaces. An additional set of cable D is required for the second ML530 interface.

Patchbay, cables, pins and connectors are ordered separately as required. *

Part	Qty	Description	Part #	Length
A	(1)	Tie Line Patch	950-03770-01	NA
B*	(2)	Elco 38 Pin Connector w/hood	100-02099-00	NA
C*	(80)	Elco Crimp Pins	100-02100-00	NA
D**	(2)	ML530 analog out (EM38x1<>EM38x1	030-07158-01	2M

*Elco hoods and crimp pins are included in standard 10M and 20M accessory cable kits.
**10M cable available, EM38x1<>EM38x1, part# 030-06913-01

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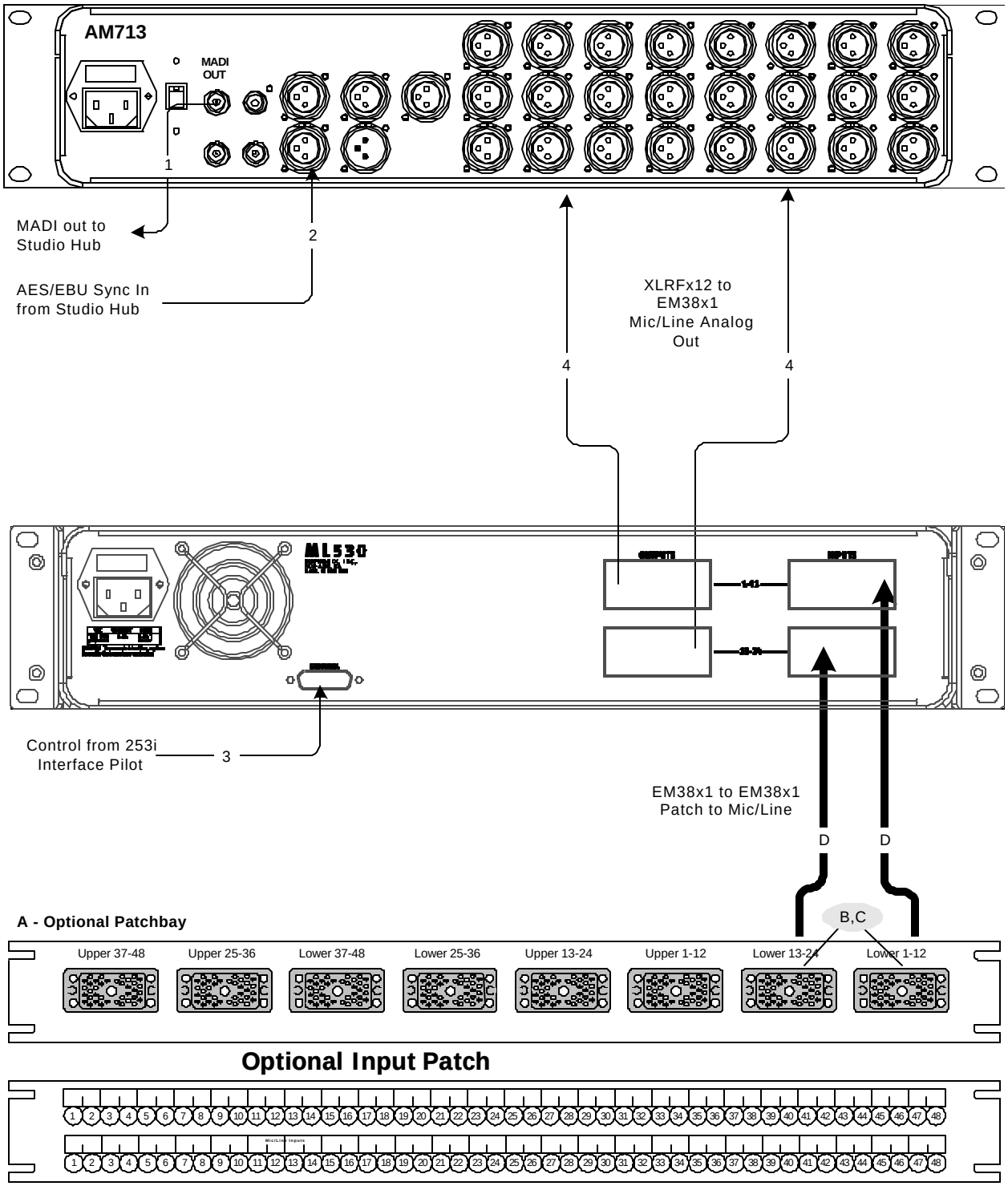
ML530 Mic-Line Interface Hookup Diagram – Optional Input Patch



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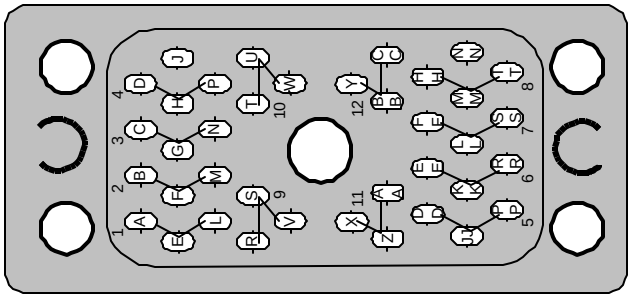
Input and Output Pinout Diagrams, Channels 1-12, ELCO 38 Pin

Signal Name	Hot	Cold	Shield	ConnectorPair No.
Channel 1 Input/Output	pin A	pin E	pin L	**1**
Channel 2 Input/Output	pin B	pin F	pin M	**2**
Channel 3 Input/Output	pin C	pin H	pin N	**3**
Channel 4 Input/Output	pin D	pin J	pin P	**4**
Channel 5 Input/Output	pin DD	pin JJ	pin PP	**5**
Channel 6 Input/Output	pin EE	pin KK	pin RR	**6**
Channel 7 Input/Output	pin FF	pin LL	pin SS	**7**
Channel 8 Input/Output	pin HH	pin MM	pin TT	**8**
Channel 9 Input/Output	pin R	pin S	pin V	**9**
Channel 10 Input/Output	pin T	pin U	pin W	**10**
Channel 11 Input/Output	pin X	pin Z	pin AA	**11**
Channel 12 Input/Output	pin Y	pin BB	pin CC	**12**

ELCO 38 Pin Male Connector Seen From Rear
(Insert pins from this side)



Connector Specifications:
38-pin male w/ hood ELCO P/N 00-8016-038000-519 (Euph P/N 100-02099)
Use crimp pins ELCO P/N 60-8017-031300-339 (Euph P/N 100-02100)

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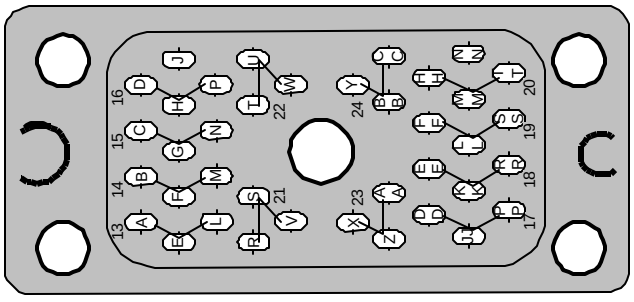
Input and Output Pinout Diagrams, Channels 13-24, ELCO 38 Pin

Signal Name	Hot	Cold	Shield	ConnectorPair No.
Channel 13 Input/Output	pin A	pin E	pin L	**13**
Channel 14 Input/Output	pin B	pin F	pin M	**14**
Channel 15 Input/Output	pin C	pin H	pin N	**15**
Channel 16 Input/Output	pin D	pin J	pin P	**16**
Channel 17 Input/Output	pin DD	pin JJ	pin PP	**17**
Channel 18 Input/Output	pin EE	pin KK	pin RR	**18**
Channel 19 Input/Output	pin FF	pin LL	pin SS	**19**
Channel 20 Input/Output	pin HH	pin MM	pin TT	**20**
Channel 21 Input/Output	pin R	pin S	pin V	**21**
Channel 22 Input/Output	pin T	pin U	pin W	**22**
Channel 23 Input/Output	pin X	pin Z	pin AA	**23**
Channel 24 Input/Output	pin Y	pin BB	pin CC	**24**

ELCO 38 Pin Male Connector Seen From Rear
(Insert pins from this side)



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